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OBSTRUCTIVE SLEEP APNEA IS THE MOST FREQUENT SECONDARY CAUSE OF RESISTANT HYPERTENSION

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

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Authors: *Rodrigo P. Pedrosa, Luciano F. Drager, Carolina C. Gonzaga, Marcio G. Sousa, Lilian K. G. de Paula, Celso Amodeo, Eduardo M. Krieger, Geraldo Lorenzi-Filho, Heart Institute (InCor) do Hospital das Clínicas da FMUSP, São Paulo, Brazil, Instituto Dante Pazzanese de Cardiologia, São Paulo, Brazil*

Background: Secondary causes of hypertension (HTN) are common among patients with resistant HTN. However, there are no studies systematically evaluating all main causes of secondary HTN in consecutive patients. Recent studies suggest that obstructive sleep apnea (OSA) is extremely common in patients with resistant HTN. Our hypothesis was that obstructive sleep apnea (OSA) is the most prevalent condition associated with resistant HTN. In addition, because OSA is frequently not recognized, we also sought to investigate clinical predictors of OSA.

Methods: Consecutive patients with resistant HTN (uncontrolled office blood pressure despite the concurrent use of 3 antihypertensive drugs, including a diuretic or use of > 3 antihypertensive drugs) from 2 tertiary cardiologic centers were systematically investigated for: OSA, pheochromocytoma, primary aldosteronism, renal parenchymal disease, renovascular HTN, thyroid disorders and oral contraceptive therapy. Patients with no identifiable causes were defined as primary HTN.

Results: We evaluated 125 consecutive patients with resistant HTN (age = 52 ± 1 years, 43% males, body mass index = 32 ± 6 kg/m², systolic and diastolic blood pressure = 176 ± 31 mmHg and 107 ± 19 mmHg, respectively). OSA (apnea-hypnea index > 15 events/hour) was the most prevalent secondary cause of HTN (64.0%), followed by primary HTN (34.4%), primary aldosteronism (5.6%), renovascular HTN (2.4%), renal parenchymal disease (2.4%), use of oral contraceptives (2.4%), and thyroid disorders (0.8%). The association of 2 secondary causes of HTN was found in 6.4% of the patients. Age > 50 years (OR, 95% CI = 5.2, 1.9 to 14.2, $p < 0.01$), neck circumference ≥ 41 cm for women and 43 cm for men (4.7, 1.3 to 16.9, $p = 0.02$), and snoring (3.7, 1.3 to 11, $p = 0.02$) were predictors of OSA. In contrast, presence of excessive daytime sleepiness did not correlate with OSA.

Conclusions: OSA is the most common cause of secondary hypertension associated with resistant hypertension. Advanced age, increased neck circumference and snoring are predictors of OSA in this population.